

SPACE WEATHER INFORMATION AND FORECAST SERVICES

(SWIFtS)

WEEKLY SPACE WEATHER NEWS

Periode: 15 – 22 April 2016

SOLAR ACTIVITY

For the past week, the early of the week the Solar activity was active following previous week activity. The largest flare recorded was M6.7 on 18th April peaking at 00:29 UT related to type II, type IV and one of type III radio burst. The activity in particular related to NOAA 2529. Also recorded one halo CME during the period of activity. Following event recorded was C1.0 flare occurred on 19th April peaking at 23:02 UT from NOAA2529 before it vanished on the western limb. During the mid-week, Solar activity tend to be quiet with (NOAA 2529) already on the backside and Active regions that remain for the last week (NOAA 2532 and 2533) appear as a simple sunspot region.

There was a small increase of high-energy proton flux triggered by the latest M6.7 (18th April 00:29 UT) flare, but aside from that event proton flux is staying on normal level and the activity is considered as quiet.

GEOMAGNETIC ACTIVITY

Geomagnetic activities for this week, from April, 15th – 21st 2016, generally in quiet condition. There was only one minor storm occurrence, that happened on 16 April 2016 at 22:00 UT. Dst index reached -52 nT and Kp index was on 4 which means active level at high latitude region. The minor storm might caused by high speed stream from geoeffective coronal hole. Substorm during this week was occurred simultaneously with the minor storm. Increment on Ae index seen at 16 April 2016, 07:00 UT and keep increased until it reached less then 1500 nT. The substorm has taken place for about 40 hours.

IONOSPHERIC CONDITIONS

In this week, ionospheric condition were quiet to strong level disturbance..

Quiet conditions occurred at 15th and 19th April. Minor level occurred at 20th and 21st April 2016. Strong disturbance occurred at 18th April 2016. The disturbances occurred due to the depression of F_2 critical frequencies (f_oF_2) more than 30% from its median values with duration from several minutes to more than 1 hour minute in post midnight time. Those conditions impacting the HF radio communication which defined as *Radio Blackout*. There was no increment of minimum frequencies (f_{min}) which is a source of *Shortwave Fadeout* (SWF) disturbance. The occurrence of *Spread-F* which is a source of *Fading* occurred at 15th April 2016 for 3 hours. Based on the observations using GISTM over Biak, the *scintillation* (S4) condition for this week were in quiet except at 15th and 21st April 2016. *Scintillation* in severe condition with $S_4 > 0.5$ in duration up to 2 hours and 30 minutes. *Scintillation* in moderate condition with $0.25 > S_4 > 0.5$ in duration up to 20 minutes. These conditions of *scintillation* could lead levels of *loss of lock* disturbances conditions but still in slightly level. The maximum values of *Total Electron Content* (TEC) for this week were between 38 to 56 TECU which tends to decrease from last week. However those values could affecting to the error positioning parameters into the medium scale of disturbance conditions.

*For daily space weather information and forecast, please refer to our **Space Weather Information and Forecast Services (SWIFtS)** official website at swifts.sains.lapan.go.id or please e-mail us for request by facsimile*



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